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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,773	10/30/2003	Tomoe Miyazawa	117641	6898

25944 7590 03/11/2005

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EXAMINER

PERT, EVAN T

ART UNIT PAPER NUMBER

2826

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/695,773

Applicant(s)

MIYAZAWA ET AL.

Examiner

Evan Pert

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-25 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>0304</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

1. The specification contains informalities throughout, including sentences that are not proper grammatical English (e.g. [0002]) and portions of the text where letters are inadvertently replaced with blanks, such as the letter "e" starting at p. 4 of [0004], continuing in places like [0011], [0017], through to [0032].

While many of the informalities are seemingly a result of poor scanning and/or faxing, a substitute specification is none-the-less required in order to place the specification in suitable form for publishing as a quality patent.

Correction is required.

### ***Claim Objections***

2. Claim 1 is objected to (as well as the depending claims), because the preamble is missing the "e" from "use." Appropriate correction is required.

### ***Allowable Subject Matter***

3. Claims 1-12 are objected to because "use" reads "us" as filed, but are otherwise allowable.

4. Claims 13-25 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the “essential” part of applicant’s cleaning formulation as claimed, and therefore does not disclose use of the formulation for semiconductor wafer cleaning.

Applicant’s invention can be distinguished from prior art, in its various aspects, by a “formulation” containing both “ethylene urea” and “maleic acid.” The examiner emphasizes that the preamble to claim 1 is given significant patentable weight in that the mere co-existence of maleic acid and ethylene urea in a “formulation” does not fall within the scope of claim 1 unless the formulation is suitable for semiconductor wafer cleaning [see MPEP 2111.02 wherein, in *this* case, the preamble gives meaning to the scope of a formulation containing maleic acid and ethylene urea].

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited disclose various cleaning formulations for wafers, addressing cleaning of low-k dielectrics with copper interconnects, yet none disclose a formulation that includes “maleic acid” and “ethylene urea.”

Also included in the references cited are Material Safety Data Sheets for each of “maleic acid” and “ethylene urea,” wherein synonyms of these chemicals identified in the data sheets were included in search strategies of the claimed invention.

7. This application is in condition for allowance except for the following formal matters:

Submission of substitute specification in accordance with item 1 above, including corrected claim 1 in accordance with item 2 above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Evan Pert whose telephone number is 571-272-1969. The examiner can normally be reached on M-F (7:30AM-3:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**EVAN PERT**  
**PRIMARY EXAMINER**

ETP  
March 5, 2005